Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) An electrode for a secondary electrochemical cell comprising a silicon nanofilm or a lithium alloy thereof.

2. (Original) The electrode of claim 1, wherein the silicon nanofilm alloys with lithium at ambient temperature.

3. (Original) The electrode of claim 1, wherein the lithium alloy has a theoretical stoichiometry Li_xSi, and x is at least about 2.1.

4. (Original) The electrode of claim 1, wherein the silicon nanofilm is not greater than about 200 nm thick.

5. (Original) The electrode of claim 4, wherein the silicon nanofilm is not greater than about 100 nm thick.

6. (Original) The electrode of claim 1, wherein the silicon nanofilm is substantially amorphous.

7. (Original) The electrode of claim 1, wherein the silicon nanofilm is synthesized by physical vapor deposition.

8. (Original) A electrode for a secondary electrochemical cell comprising a silicon nanoparticle or a lithium alloy thereof, wherein the diameter of the silicon nanoparticle is not greater than about 50 nm in diameter.

9. (Original) The electrode of claim 8, wherein the silicon nanofilm alloys with lithium at ambient temperature.

10. (Original) The electrode of claim 8, wherein the lithium alloy has a theoretical stoichiometry Li_xSi, and x is at least about 1.05.

11. (Original) The electrode of claim 8, wherein the silicon nanoparticle has a crystalline domain.

12. (Original) The electrode of claim 8, wherein the silicon nanoparticle is synthesized by inert gas condensation and ballistic consolidation.

13. (Original) An electrode for a secondary electrochemical cell comprising nanostructured silicon or a lithium alloy thereof, wherein the electrode does not comprise carbon black.

14. (Original) The electrode of claim 13, wherein the silicon nanofilm alloys with lithium at ambient temperature.

15. (Original) The electrode of claim 13, wherein the specific capacity is at least 1000 mAh/g.

16. (Original) The electrode of claim 15, wherein the specific capacity is at least 2000 mAh/g.

17. (Original) The electrode of claim 13, wherein the cycle life is at least about 20.

18. (Original) The electrode of claim 13, wherein the specific capacity at 100*C* is at least about 2/3 of the specific capacity at *C*/4.

19. (Original) The electrode of claim 13, wherein the nanostructured silicon comprises a silicon nanoparticle.

20. (Original) The electrode of claim 13, wherein the nanostructured silicon comprises a silicon nanofilm.

21. (Original) A method of synthesizing a silicon nanoparticle comprising evaporating elemental silicon into a gas, thereby forming a silicon nanocrystal, wherein the gas comprises hydrogen.

22. (Original) The method of claim 21, wherein the gas further comprises nitrogen.

23. (Original) The method of claim 21, wherein the elemental silicon is substantially pure silicon.

24. (Original) The method of claim 21, wherein the silicon nanocrystal is entrained in the gas, the method further comprising:

accelerating the gas and entrained nanocrystal; and

depositing the nanocrystal on a substrate.

25. (Original) A silicon nanoparticle synthesized by a method comprising evaporating elemental silicon into a gas, thereby forming a silicon nanocrystal, wherein the gas comprises hydrogen.

26. (Currently amended) A secondary electrochemical cell comprising an anode, a cathode, and an electrolyte, wherein the anode comprises ~~a~~ the silicon nanofilm or a lithium alloy thereof of claim 1.

27. (Original) The secondary electrochemical cell of claim 26, wherein the silicon nanofilm is not greater than about 200 nm thick.

28. (Original) The secondary electrochemical cell of claim 26, wherein the secondary electrochemical cell is a battery or an electrochemical supercapacitor.

29. (Currently amended) A secondary electrochemical cell comprising an anode, a cathode, and an electrolyte, wherein

the anode comprises ~~a~~ the silicon nanofilm or a lithium alloy thereof of claim 1, and

the diameter of the silicon nanoparticle is not greater than about 50 nm in diameter.

30. (Original) The secondary electrochemical cell of claim 29, wherein the silicon nanoparticle is synthesized by inert gas condensation and ballistic consolidation.

31. (Original) The secondary electrochemical cell of claim 29, wherein the secondary electrochemical cell is a battery or an electrochemical supercapacitor.

32. (Currently amended) A secondary electrochemical cell comprising an anode, a cathode, and an electrolyte, wherein

the anode comprises the nanostructured silicon or a lithium alloy thereof of claim 13, and

the anode does not comprise dispersed carbon black.

33. (Original) The secondary electrochemical cell of claim 32, wherein the nanostructured silicon comprises a silicon nanoparticle.

34. (Original) The secondary electrochemical cell of claim 32, wherein the nanostructured silicon comprises a silicon nanofilm.

35. (Original) The secondary electrochemical cell of claim 32, wherein the secondary electrochemical cell is a battery or an electrochemical supercapacitor.